IN THE CLAIMS

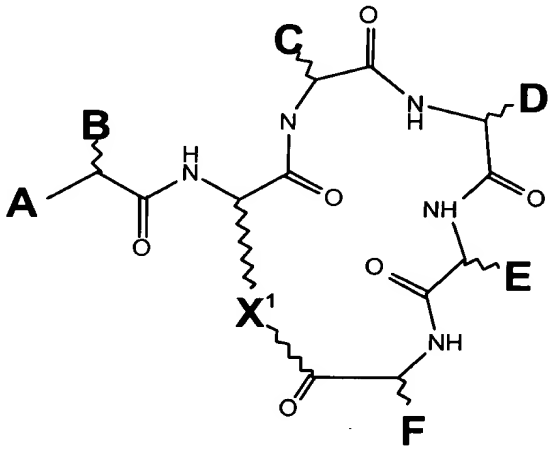
The following listing of claims will replace all prior versions, and listing of claims in this application.

Listing of Claims

Claims 1-9 (cancelled).

Claim 10 (Currently Amended) A compound, ~~An antagonist according to Claim 1,~~ which has antagonist activity against ~~C5aR~~ a C5a receptor, has no agonist activity against a C5a receptor, and has the general formula II:

~~Structure II~~



where A is H, alkyl, aryl, NH_2, NHalkyl, $N(alkyl)_2$, NHaryl or NHacyl;

B is an alkyl, aryl, phenyl, benzyl, naphthyl or indole group, or the side chain of a D- or L-amino acid selected from the group consisting of phenylalanine, homophenylalanine, tryptophan, homotryptophan, tyrosine, and homotyrosine;

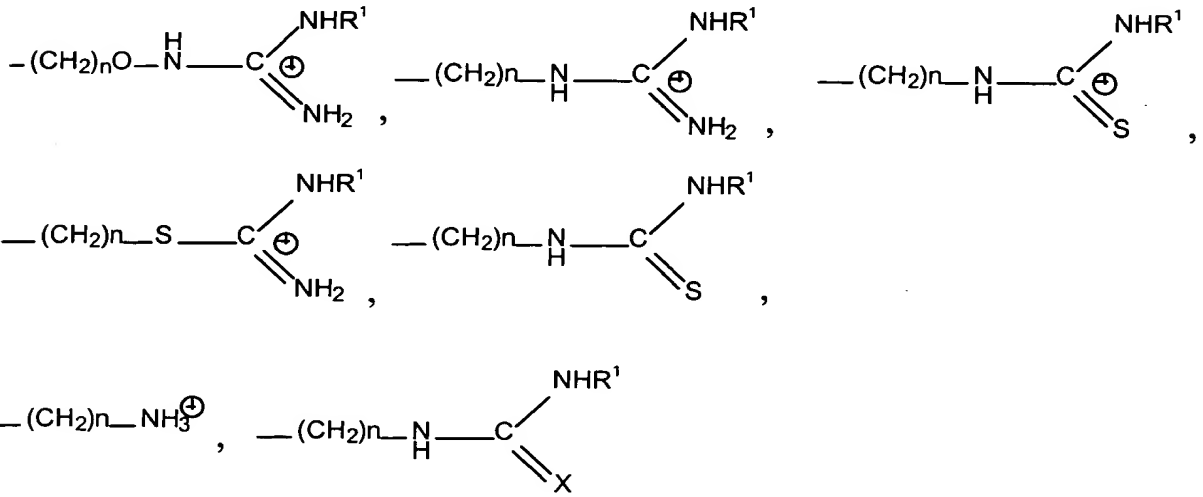
C is the side chain of a D-, L- or homo-amino acid selected from the group consisting of proline, alanine, leucine, valine, isoleucine, arginine, histidine, aspartate, glutamate, glutamine, asparagine, lysine, tyrosine, phenylalanine, cyclohexylalanine, norleucine, tryptophan, cysteine and methionine;

D is the side chain of a D- or L-amino acid selected from the group consisting of cyclohexylalanine, homocyclohexylalanine, leucine, norleucine, homoleucine, homonorleucine and tryptophan;

E is the side chain of a D- or L-amino acid selected from the group consisting of tryptophan and homotryptophan;

F is the side chain of a D- or L-amino acid selected from the group consisting of arginine,

homoarginine, lysine and homolysine or is one of the following side-chains



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or another mimetic of an arginine side chain,

where

X is NCN, NNO_2, $CHNO_2$ or NSO_2NH_2;

n is an integer from 1 to 4, and

R^1 is H or an alkyl, aryl, CN, NH_2, OH, -CO-CH_2CH_3, -CO-CH_3, -CO-$CH_2CH_2CH_3$, -CO-CH_2Ph, or -CO-Ph; and

X^1 is -$(CH_2)_n$NH- or $(CH_2)_n$-S-,-$(CH_2)_2$O-, -$(CH_2)_3$O-, -$(CH_2)_3$-, -$(CH_2)_4$-, or -CH_2COCHRNH-, where R is the side chain of any common or uncommon amino acid, and where n is an integer of from 1 to 4.

Claim 11 (Currently Amended) ~~An antagonist~~ The compound according to Claim 10, in which F is a L-amino acid.

Claim 12 (Currently Amended) ~~An antagonist~~ The compound according to Claim 11, in which F is L-arginine.

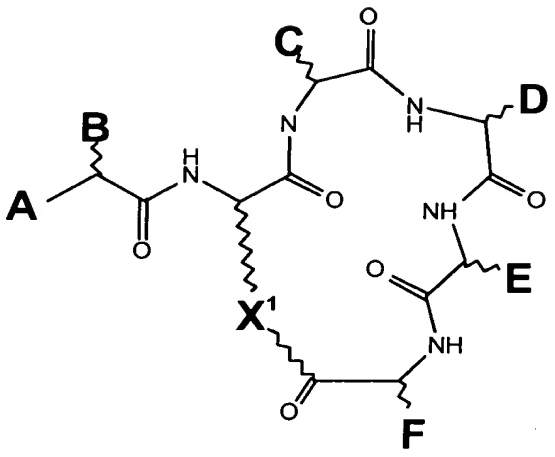
Claim 13 (Currently Amended) ~~An antagonist~~ The compound according to ~~Claim 3 or~~ Claim 10, which is a compound selected from the group consisting SEQ ID NOS: 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27 and 28~~of compounds~~.

Claim 14 (Currently Amended) ~~An antagonist~~ The compound according to Claim 10, in which n is 2 or 3.

Claims 15 and 16 (Cancelled).

Claim 17 (Currently Amended) A compound which is an agonist of the C5a receptor, ~~according to Claim 15 or Claim 16, in which the compound is of structure~~ and has the formula IV:~~;~~

~~Structure IV~~

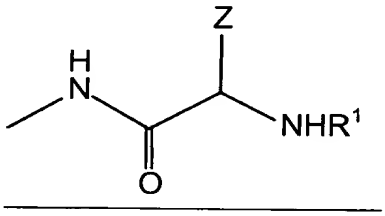


where A is any common or uncommon, basic, charged amino acid side chain which serves to position a positively charged group in this position;

B is a non-aromatic amino acid, and

C is any common or uncommon, hydrophobic amino acid side chain which serves to position any alkyl, aromatic or other group in this position; and

D is any common or uncommon, aromatic amino acid which serve to position an aromatic side-chain in this position, and has the structure:



where Z is indole, indole methyl, benzyl, benzene, naphthyl, naphthyl methyl, or a derivative thereof; and

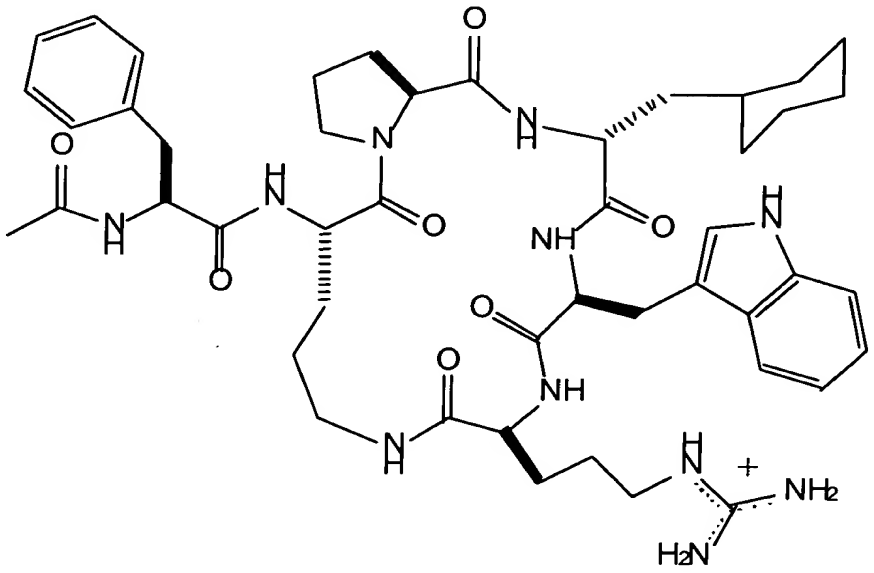
R is H or an alkyl, aromatic, acyl or aromatic-acyl group;

E is any amino acid other than tryptophan and homotryptophan, and

F is the side chain of a D- or L-amino acid selected from the group consisting of arginine, homoarginine, lysine and homolysine.

Claim 18 (Cancelled).

Claim 19 (Currently Amended) A compound ~~according to Claim 10, of structure~~ having the formula



Claim 20 (Currently Amended) A composition comprising a compound according to Claim 10 ~~1~~, together with a pharmaceutically-acceptable carrier or excipient.

Claims 21-23 (Cancelled).

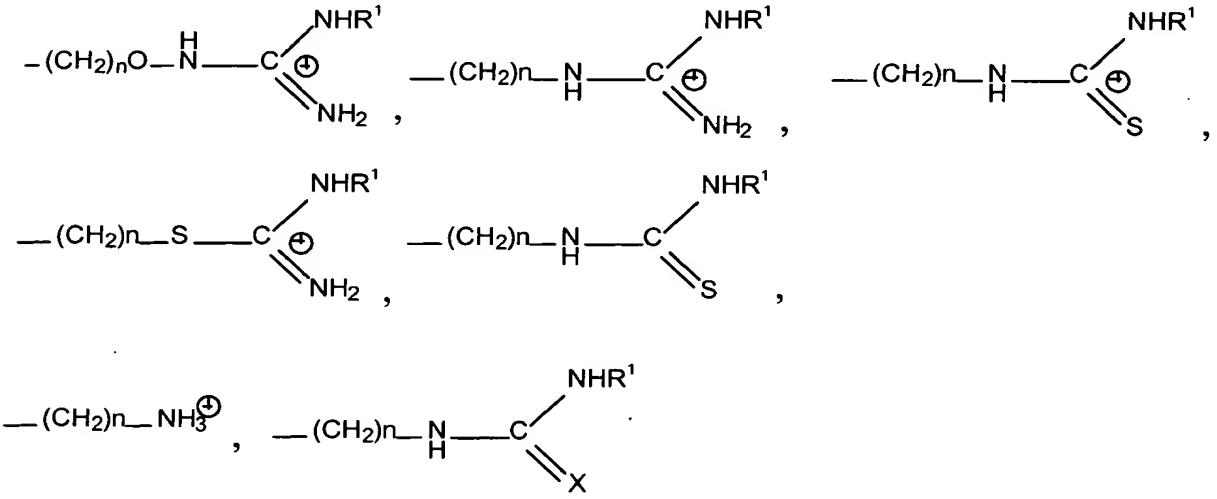
Claim 24 (New) The composition of Claim 20, wherein in the compound of formula II, F is a L-amino acid.

Claim 25 (New) The composition according to Claim 20, wherein in the compound of formula II, F is L-arginine.

Claim 26 (New) The composition according to Claim 20, wherein the compound of formula II is a compound selected from the group consisting SEQ ID NOS: 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27 and 28.

Claim 27 (New) The composition according to Claim 20, wherein in the compound of formula II

F is one of the following side-chains



or another mimetic of an arginine side chain;

where

X is NCN, NNO_2, $CHNO_2$ or NSO_2NH_2;

n is an integer from 1 to 4, and

R^1 is H or an alkyl, aryl, CN, NH_2, OH, -CO-CH_2CH_3, -CO-CH_3, -CO-$CH_2CH_2CH_3$, -CO-CH_2Ph, or -CO-Ph;

B is an indole, indole methyl, benzyl, phenyl, naphthyl, naphthyl methyl, cinnamyl group, or any other derivative of the aromatic group; and

C is D- or L-cyclohexylalanine (Cha), leucine, valine, isoleucine, phenylalanine, tryptophan or methionine.

27 Claim 28 (New) The composition according to Claim 27, wherein in the compound of formula II, R^1 is methyl, ethyl, propyl, or butyl.

28 Claim 29 (New) The composition according to Claim 20, wherein the compound of formula II has the formula

Ac-Phe-[Lys-Pro-(dCha)-Trp-Arg] or
Ac-Phe-[Orn-Pro-(dCha)-Trp-Arg].

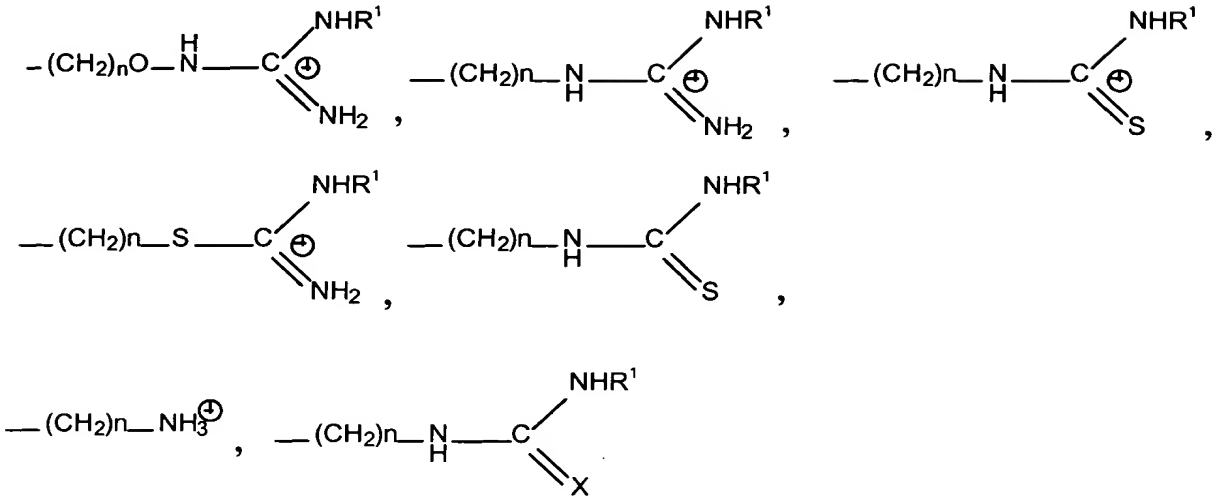
29 Claim 30 (New) The composition according to Claim 20, in which F is L-arginine.

30 Claim 31 (New) A composition comprising a compound according to Claim 17, together with a pharmaceutically acceptable carrier or excipient.

31 Claim 32 (New) A composition comprising the compound of Claim 19, together with a pharmaceutically acceptable carrier or excipient.

32 Claim 33 (New) The compound according to Claim 10, in which

F is one of the following side-chains



or another mimetic of an arginine side chain;

where

X is NCN, NNO_2, $CHNO_2$ or NSO_2NH_2;

n is an integer from 1 to 4, and

R^1 is H or an alkyl, aryl, CN, NH_2, OH, -CO-CH_2CH_3, -CO-CH_3, -CO-$CH_2CH_2CH_3$, -CO-CH_2Ph, or -CO-Ph;

B is an indole, indole methyl, benzyl, phenyl, naphthyl, naphthyl methyl, cinnamyl group, or any other derivative of the aromatic group; and

C is D- or L-cyclohexylalanine (Cha), leucine, valine, isoleucine, phenylalanine, tryptophan or methionine.

13 Claim 34 (New) The compound according to Claim 33, in which R^1 is methyl, ethyl, propyl, or butyl.

14 Claim 35 (New) The compound according to Claim 10, which has the formula

Ac-Phe-[Lys-Pro-(dCha)-Trp-Arg] or
Ac-Phe-[Orn-Pro-(dCha)-Trp-Arg].

Claim 36 (New) The compound according to Claim 10, in which A is L-arginine.

Claim 37 (New) A method of antagonizing the activity of a C5a receptor on a cell, comprising contacting the cell with the compound of Claim 10 in an amount sufficient to antagonize the activity of the C5a receptor on the cell.

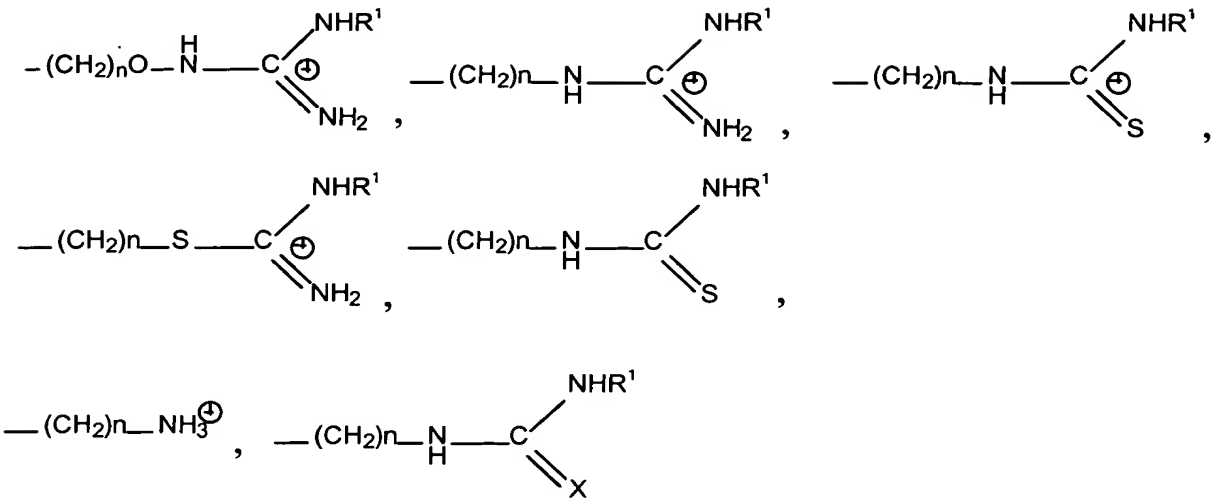
Claim 38 (New) The method according to Claim 37, wherein in the compound of formula II, F is a L-amino acid.

Claim 39 (New) The method according to Claim 37, wherein in the compound of formula II, F is L-arginine.

Claim 40 (New) The method according to Claim 37, wherein the compound of formula II is a compound selected from the group consisting SEQ ID NOS: 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27 and 28.

Claim 41 (New) The method according to Claim 37, wherein in the compound of formula II

F is one of the following side-chains



or another mimetic of an arginine side chain;

where

X is NCN, NNO_2, $CHNO_2$ or NSO_2NH_2;

n is an integer from 1 to 4, and

R^1 is H or an alkyl, aryl, CN, NH_2, OH, -CO-CH_2CH_3, -CO-CH_3, -CO-$CH_2CH_2CH_3$, -CO-CH_2Ph, or -CO-Ph;

B is an indole, indole methyl, benzyl, phenyl, naphthyl, naphthyl methyl, cinnamyl group, or any other derivative of the aromatic group; and

C is D- or L-cyclohexylalanine (Cha), leucine, valine, isoleucine, phenylalanine, tryptophan or methionine.

Claim 42 (New) The method according to Claim 41, wherein in the compound of formula II, R^1 is methyl, ethyl, propyl, or butyl.

Claim 43 (New) The method according to Claim 37, wherein the compound of formula II has the formula

Ac-Phe-[Lys-Pro-(dCha)-Trp-Arg] or
Ac-Phe-[Orn-Pro-(dCha)-Trp-Arg].

Claim 44 (New) The method according to Claim 37, wherein in the compound of formula II, F is L-arginine.

Claim 45 (New) The method of Claim 37, wherein the cell is in a mammal and said contacting comprises administering the compound to said mammal.

Claim 46 (New) The method of Claim 38, wherein said mammal is a human.

Claim 47 (New) A method of agonizing the activity of a C5a receptor on a cell comprising contacting the cell with the compound of Claim 17 in an amount sufficient to agonize the C5a receptor on the cell.

Claim 48 (New) The method of Claim 47, wherein the cell is in a mammal and said contacting comprises administering the compound to said mammal.

Claim 49 (New) The method of Claim 48, wherein the mammal is a human.

Claim 50 (New) A method of agonizing the activity of a C5a receptor on a cell comprising contacting the cell with the compound of Claim 19 in an amount sufficient to agonize the C5a receptor on the cell.

Claim 51 (New) The method of Claim 50, wherein the cell is in a mammal and said contacting comprises administering the compound to said mammal.

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Claim 52 (New) The method of Claim 51, wherein the mammal is a human.

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Claim 53 (New) A method of treating an inflammatory condition mediated by a C5a receptor, comprising the step of administering an effective amount of a compound according to claim 10 to a mammal in need thereof.

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Claim 54 (New) The method of claim 53, wherein the mammal is a human.

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Claim 55 (New) A method of treating arthritis, comprising the step of administering an effective amount of a compound according to claim 10 to a mammal in need thereof.

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Claim 56 (New) The method of claim 55, wherein the mammal is a human.

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Claim 57 (New) A method of treating an inflammatory condition mediated by a C5a receptor, comprising the step of administering an effective amount of a compound according to claim 17 to a mammal in need thereof.

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Claim 58 (New) The method of claim 57, wherein the mammal is a human

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Claim 59 (New) A method of treating arthritis, comprising the step of administering an effective amount of a compound according to claim 17 to a mammal in need thereof.

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Claim 60 (New) The method of claim 59, wherein the mammal is a human.

Claim 61 (New) A method of treating an inflammatory condition mediated by a C5a receptor, comprising the step of administering an effective amount of a compound according to claim 19 to a mammal in need thereof.

Claim 62 (New) The method of claim 61, wherein the mammal is a human.

Claim 63 (New) A method of treating arthritis, comprising the step of administering an effective amount of a compound according to claim 19 to a mammal in need thereof.

Claim 64 (New) The method of claim 63, wherein the mammal is a human.